

ABSTRACT OF THE DISCLOSURE

The present invention relates to a semiconductor device in which a capacitance element is mounted on a semiconductor substrate as well as a method of fabricating the device. According to the present invention, a substantial lower electrode is formed on a semiconductor substrate through a first insulation film; a peripheral electrode, i.e. the periphery of the lower electrode or a dummy electrode, which has the surface higher than the surface of the lower electrode being formed integrally with or separately from the lower electrode; an upper electrode being formed on the lower electrode through a dielectric film; a capacitance element being formed so that at least the surface of the dielectric film may lie on a level lower than the surface of the peripheral electrode; and a recess surrounded by the peripheral electrode being filled with a smoothing film.

As a result, when the smoothing film is formed, at least the dielectric film does not sustain damage and so a capacitance element having less fluctuation in its characteristics and high reliability can be obtained.